

**REMARKS**

Claims 1 to 5, 7 and 9 to 11 are now pending in the application, with claim 1 being the only independent claim. Reconsideration and further examination are respectfully requested.

In the Office Action, claims 1, 4 and 7 to 10 were rejected under 35 U.S.C. § 102(b) over U.S. Patent 5,729,207 (Yamano); claims 2, 3, 5 and 6 were rejected under § 103(a) over Yamano in view of U.S. Patent 5,440,293 (Tice); and claims 11 to 13 were rejected under § 103(a) over Yamano in view of U.S. Patent 6,078,269 (Markwell). Withdrawal of these rejections is respectfully requested for the following reasons.

The present invention concerns an alarm system that includes a housing assembly and a cartridge that detachably mounts within the housing assembly. The cartridge includes detection circuitry, a power source and an alarm so that the cartridge may operate independently of the housing assembly to detect heat, radiation and/or pollutants and then to activate the alarm upon such a detection. By virtue of this configuration, an alarm system according to the present invention may be used in a fixed location (such as the user's home) and then the cartridge may be removed and used as a portable alarm device.

Thus, independent claim 1 is directed to a system for detecting heat, radiation and/or pollutants. The system includes a housing assembly and a cartridge that is detachably mountable within such housing assembly. The cartridge contains a detection apparatus for detecting at least one of heat, radiation and pollutants. The detection apparatus, in turn, includes detection circuitry, a power source and an alarm,

such that the cartridge is operable independently of the housing assembly to detect the heat, radiation and/or pollutants and to activate the alarm upon such detection.

The foregoing combination of features is not disclosed or suggested by the applied art. In particular, the applied art does not disclose or suggest at least the feature of a detachably mountable cartridge that includes detection circuitry, a power source and an alarm so that the cartridge may be operated independently of a housing assembly to which it detachably mounts, in order to detect heat, radiation and/or pollutants and to activate the alarm upon such detection.

The primary reference cited in Office Action is Yamano. This reference discloses a corrosive gas detecting sensor having a sensor body 11 that is separate from a removable cartridge 10. In the "Response to Arguments" section of the Office Action, it is asserted that column 3, lines 57 to 64 and column 5, lines 27 to 34 of Yamano discloses a removable cartridge that includes both detection circuitry 15 and a power source 25. In response, Applicants note that the latter portion of Yamano discloses that a power source unit 25 may be included within Yamano's cartridge, and the former portion merely describes Yamano's cartridge as otherwise including a sensor element 3 and an EEPROM 5.

Independent claim 1 has been amended above to clarify that the detection circuitry included within the cartridge of the present invention includes detection circuitry, a power source and an alarm such that the cartridge is operable independently of the housing assembly to detect heat, radiation and/or pollutants and to activate the alarm upon such detection. Clearly, the inclusion of a power source, EEPROM and sensor element alone in Yamano's cartridge would not be sufficient to perform the

detection and alarm activation functions that are capable of being performed by the cartridge of the present invention.

More specifically, in Yamano, removal of the cartridge 10 from the sensor body 11 separates component parts of Yamano's alarm system and thereby prevents it from operating (see, e.g., column 4, lines 59-61 and column 5, lines 15-21). Indeed, as discussed at column, lines 19-21, it is clear that one intention of Yamano is to ensure that power is not applied to the alarm system as a whole when the cartridge 10 is removed, in order to conserve power, and this is clearly effected by having a significant part of the control circuitry located within sensor body 11.

As further discussed in Yamano, the EEPROM 5 that is contained within cartridge 10 is used only to store production and quality control data (written into the EEPROM during manufacture) and a vibration number for the sensor element 3. This vibration value apparently is used by the control circuitry within the sensor body 11 to determine whether or not there is a fire or if the sensor element has been degraded. Therefore, even in combination with a sensor, Yamano's EEPROM 5 could not function independently as a detection circuit.

The other applied art has been reviewed in detail and is not seen to supplement Yamano in any manner which would have disclosed or suggested the above-referenced combination of features. For example, in the Office Action, it is asserted that Markwell discloses a plurality of detectors, with each detector 20 including a horn alarm 30. The Office Action then asserts that it would have been obvious to combine this teaching with Yamano in order to sound an alarm based on a detection of heat, radiation and/or pollutants.

However, Markwell (and in particular, the specifically referenced portions of Markwell) has been reviewed in detail and is only seen to discuss a network of interconnected alarm circuits. This is significantly different than the present invention and, therefore, no modification of Yamano based on this teaching would have resulted in the present invention. Rather, it appears that Markwell would only have suggested interconnecting a number of Yamano's alarm circuits in a network. No permissible combination of these two references would have suggested a detachably mountable cartridge that it is capable of independent operation as recited in independent claim 1.

For all of the foregoing reasons, independent claim 1 is believed to be allowable over the applied art. The other claims in the application depend from this claim and therefore are believed to be allowable for at least the same reasons. In addition, each such dependent claim recites an additional feature of the invention that further distinguishes the invention from the applied art. Accordingly, the individual reconsideration of each on its own merits is respectfully requested.

For instance, dependent claim 5 recites the additional feature of a cover that is moveable between first and second position in response to insertion and removal of the cartridge into and from the housing, where in the first position the cover restricts physical access to the electrical connector located within the housing (which is connectable to an external power supply) and in the second position the cover allows engagement of such first electrical connector with a second electrical connector disposed on the cartridge. As acknowledged in the Office Action, Yamano does not disclose or suggest these features of the invention. Although the Office Action cites Tice to make up for this deficiency of Yamano, Applicants do not believe that any

teaching of Tice would have resulted in the present feature of the invention. More specifically, while Tice discloses a cover of sorts which restricts physical access to certain connections, it appears that Tice's cover is manually removed in order to allow access to the contacts. Nothing in Tice would have suggested the use of a cover that restricts access or allows engagement based upon insertion and removable of a cartridge into and from a housing, as recited in claim 5.

As to claim 7, the Office Action cites Yamano's holes 16 as disclosing the apertures recited in this claim. The Office Action further cites Figure 1 and column 3, lines 19-27 as showing the opening and closing of such apertures by moving a closure means between a first and second position. However, these cited portions have been reviewed in detail and are not seen to disclose any mechanism for opening or closing holes 16. Rather, holes 16 appear to remain open at all times.

Lastly, in the previous Response, the rejections of dependent claims 10 and 11 were traversed. However, in the current Office Action those claims remain rejected on exactly the same grounds without addressing the points raised by Applicants in that Response. In accordance with M.P.E.P. § 707.07(f), the Examiner is respectfully requested to respond to those points if the present rejections continue to be maintained.

In view of the foregoing amendments and remarks, the entire application is believed to be in condition for allowance, and an indication to that effect is respectfully requested.

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Respectfully submitted,

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